

NOTES ON THE GENUS FARADAYA

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It is now quite impractical, in view of the lack of time this late in life, to prepare the complete and detailed monograph which I intended to publish on this genus and which has been previously been announced. However, it does seem worthwhile to place on record the bibliographic and herbarium notes assembled by my wife, Alma L. Moldenke, and myself over the past 52 years. This is the 77th genus treated by us in this continuing series of papers in this and a few other journals. The herbarium acronyms employed herein are the same as have been used in all of our previous papers in this series since 1930 and are most recently explained in full in PHYTOLOGIA MEMOIRS 2: 463--469 (1980) and PHYTOLOGIA 50: 268 (1982).

FARADAYA F. Muell., *Fragm. Phyt. Austr.* 5: 21. 1865.

Synonymy: *Terminalioides* Soland. ex Seem., *Fl. Vit.* 190, in syn. 1866. *Tetrathyranthus* A. Gray ex Benth. in Benth. & Hook. f., *Gen. Pl.* 2: 1156 [as "*Tetrathyranthi*"]. 1876; Mold., *Prelim. Alph. List Inv. Names* 43, in syn. 1940. *Faradaija* Wigman, *Teysmannia* 1: 488. 1890. *Schizopremna* Baill., *Hist. Pl.* 11: 119. 1891. *Farradaya* Muell. ex Mold., *Suppl. List Inv. Names* 3, in syn. 1941. *Faraday* F. Muell. ex Datta, *Handb. Syst. Bot.* 182, sphalm. 1965.

Bibliography: Barclay & Hinds, *Hook. Journ. Bot.* 2: 211. 1843; A. Gray, *Proc. Am. Acad.* 6: 50. 1862; Seem., *Bonplandia* 10: [249]--250. 1862; F. Muell., *Fragm. Phyt. Austr.* 5: 21--22. 1865; Seem., *Journ. Bot. Lond.* 3: 256--258 & 398. 1865; Seem., *Fl. Vit.* 186 & 188--190, pl. 44. 1866; F. Muell., *Fragm. Phyt. Austr.* 6: 153. 1868; Powell, Seem. *Journ. Bot.* 6: 342 & 384. 1868; Benth. & F. Muell., *Fl. Austral.* 5: 33 & 69. 1870; Lindl., *Treas. Bot.*, ed. 1, 2: 1295. 1870; Seem., *Fl. Vit.* 432 & 441. 1873; F. Muell., *Descr. Notes Papuan Pl.*, imp. 1, 1: 91 & 113 (1875) and imp. 1, 6: 46--48. 1875; Benth. in Benth. & Hook. f., *Gen. Pl.* 2 (2): 1135 & 1154--1156. 1876; Lindl., *Treas. Bot.*, ed. 2, 2: 1295. 1876; Scheff., *Ann. Jard. Bot. Buitenz.* 1: 42--43. 1876; J. G. Baker, *Journ. Linn. Soc. Lond. Bot.* 2: 239. 1883; Horne, *Year Fiji* 259, 262, & 275. 1881; J. G. Baker, *Journ. Linn. Soc. Lond. Bot.* 20: 370. 1883; Lindl., *Treas. Bot.*, ed. 3, 2: 1295. 1884; F. Muell., *Descr. Notes Papuan Pl.*, imp. 1, 8: 46--48. 1886; Durand, *Ind. Gen. Phan.* 321. 1888; F. Muell., *Sec. Syst. Cens. Austr. Pl.* 1: 173. 1889; K. Schum. & Hollr., *Fl. Kais. Wilhelmsl.* 122. 1889; F. M. Bailey, *Cat. Indig. Nat. Pl. Queenal.* 35. 1890; Wigman, *Teysmannia* 1: 488--489. 1890; Baill., *Hist. Pl.* 11: 86, 88, 92, 113, & 119--120. 1891; Hook. f., *Curtis Bot. Mag.* 117: pl. 7187. 1891; Scheffer, *Ann. Jard. Bot. Buitenz.* 10: pl. 7, fig. 2. 1891; Baill., *Hist. Pl.* 11: 489. 1892; Drake del Castillo, *Illustr. Fl. Ins. Mar. Pacif.* 260--261. 1892; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, imp. 1, 1: 561

& 946. 1893; Hems1., Journ. Linn. Soc. Lond. Bot. 30: 187 & 206. 1894; Warb., Engl. Bot. Jahrb. 18: 208--209. 1894; Briq. in Engl. & Prant1., Nat. Pflanzenfam., ed. 1, 4 (3a): 133, 137, 139, 140, 142, 164, 166--167, & 173--174 (1895) and ed. 1, 4 (3a): 382 & 383. 1897; Reinecke, Engl. Bot. Jahrb. 25: 672. 1898; J. Br. in Lindl., Treas. Bot., ed. 4, 1295. 1899; K. Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee 524--525. 1900; F. M. Bailey, Queensl. Fl. 4: 1165 & 1181. 1901; Burkill, Journ. Linn. Soc. Lond. Bot. 35: 50. 1901; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 170. 1902; Krämer, Samoa-Inseln 2: 118 & 373. 1903; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 432 & 433. 1904; Post & Kuntze, Lexicon 234, 555, & 688. 1904; K. Schum. in K. Schum. & Lauterb., Nachtr. Fl. Deutsch. Südsee 370--371. 1905; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 385 & 496. 1906; Nieuwenhuis, Ann. Jard. Bot. Buitenz. 21: 259--260, pl. 26, fig. 56 & 58. 1907; Prain, Ind. Kew. Suppl. 3: 75. 1908; Rech., Bot. Ergebn. Sam. Sal.-Inseln 340, pl. 13, fig. B. 1910; Rech., Denkschr. Akad. Wien Math.-Nat. 85: 166. 1910; Pulle in Lorentz, Nov. Guin., ser. 1, 8 (1): 402. 1911; Ewart & Rees, Proc. Roy. Soc. Victoria, ser. 2, 25: 109. 1912; K. Rech., Feddes Repert. Spec. Nov. 11: 185. 1912; F. M. Bailey, Compreh. Cat. Queensl. Pl. 385 & 386, fig. 362 & 363. 1913; Prain, Ind. Kew. Suppl. 4, imp. 1, 90. 1913; Pulle in Lorentz, Nov. Guin., ser. 1, 8 (2): 686. 1914; Wangerin, Justs Bot. Jahresber. 40 (1): 862. 1914; Fedde & Schust., Justs Bot. Jahresber. 40 (2): 335. 1915; Hamlyn-Harris & F. Sm., Mem. Queensl. Mus. 5: 1--22. 1916; Wernham in Ridl., Trans. Linn. Soc. Lond., ser. 2, Bot. 9: 136. 1916; E. D. Merr., Journ. Roy. Asiat. Soc. Straits 76: 115--116. 1917; H. J. Lam, Verbenac. Malay. Arch. 8, 92, 93, 124, 228--236, 319, 365, & 368. 1919; Bull. Agric. Cong. Belg. 11: 213. 1920; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 3, 27, 71--73, 111, & xi. 1921; E. D. Merr., Bibl. Enum. Born. Pl. 515. 1921; Prain, Ind. Kew. Suppl. 5, imp. 1, 105. 1921; Fedde & Schust., Justs Bot. Jahresber. 43: 158 (1922) and 44: 254. 1922; S. Moore, Journ. Bot. 61: App. 39. 1923; Wangerin, Justs Bot. Jahresber. 51 (1): 555. 1923; H. J. Lam in Lauterb., Engl. Bot. Jahrb. 59: 94--95. 1924; H. J. Lam in R. C. Bakh. & Lam, Nov. Guin. 14, Bot. 1: 169--170. 1924; Setchell, Carnegie Inst. Wash. Publ. 341: pl. 13. 1924; Setchell, Carnegie Inst. Dept. Marine Biol. 20: pl. 13B. 1924; Wangerin, Justs Bot. Jahresber. 53 (2): 644. 1925; A. W. Hill, Ind. Kew. Suppl. 6: 85. 1926; Fedde & Schust., Justs Bot. Jahresber. 47 (2): 245. 1927; Markgraf, Notizbl. Bot. Gart. Berl. 10: 121. 1927; Fedde, Justs Bot. Jahresber. 44: 1420 (1927), 45 (2): 245 (1927), and 47 (2): 322. 1929; R. C. Bakh., Journ. Arnold Arb. 10: 72. 1929; R. C. Bakh. in White, Journ. Arnold Arb. 10: 264. 1929; Stapf, Ind. Lond. 3: 173. 1930; Howes, Kew Bull. Misc. Inf. 1930: 145--146. 1930; Wangerin, Justs Bot. Jahresber. 50 (1): 237. 1930; Gillespie, B. P. Bishop Mus. Bull. 83: 69. 1931; Guillaum., Journ. Arnold Arb. 13: 27 & 28. 1932; Fedde, Justs Bot. Jahresber. 50 (1): 686 (1932) and 51 (2): 299. 1933; A. W. Hill, Ind. Kew. Suppl. 8: 54. 1933; Junell, Symb. Bot. Upsal. 1 (4): 84, 109, 111--112, & 202, pl. 6, fig. 3 & text fig. 173. 1934; Mold., Brittonia 1: 261.

- 1934; R. C. Bakh., Journ. Arnold Arb. 16: 71--72 & 472. 1935; Christophersen, B. P. Bishop Mus. Bull. 128: 193. 1935; Beer & Lam, Blumea 2: [31], 221, & 225--226. 1936; A. W. Hill, Ind. Kew. Suppl. 9: 115. 1938; Mold., Prelim. List Inv. Names 26. 1940; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 170, 385, & 496. 1941; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 572. 1941; Mold., Suppl. List Inv. Names 3. 1941; Wangerin, Justs Bot. Jahresber. 60 (1): 696. 1941; Worsdell, Ind. Lond. Suppl. 1: 402. 1941; Kanehira & Hatusima, Bot. Mag. Tokyo 56: 114. 1942; Mold., Alph. List Inv. Names 16, 19, 24, & 43. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 65--69, 73, & 92. 1942; Lemée, Dict. Descrip. Syn. Gen. Pl. Phan. 8b: 656. 1943; Parham, Fiji Nat. Pl. 124. 1943; Lam & Meeuse, Blumea 5: 236. 1945; Mold., Phytologia 2: 103. 1945; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561 & 946. 1946; E. H. Walker, Contrib. U. S. Nat. Herb. 30: 402. 1947; H. N. & A. L. Mold., Pl. Life 2: 24, 34, 48, 58, 61, & 68. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 145, 147, 149--151, 153, 160, 182, 185, & 195. 1949; Mold., Phytologia 3: 60--61. 1949; Webb, Bull. Sci. Indust. Res. Org. Melbourne 241: 53. 1949; Mold., Phytologia 4: 53--54. 1952; Van Steenis, Act. Bot. Neerland. 4: [477]--478. 1955; Angely, Cat. Estat. Gen. Bot. Fam. 17: 4. 1956; Sastry, Wealth India 4: 7, fig. 5. 1956; Anon., Commonw. Mycol. Inst. Ind. Fungi Petrak Cum. Ind. 2: 279. 1957; Bremekamp, Biol. Abstr. 31: 221. 1957; Prain, Ind. Kew. Suppl. 4, imp. 2, 90. 1958; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 170, 385, & 496. 1959; Mold., Résumé 192, 194, 195, 199, 201--207, 209, 218, 260, 267, 268, 284, 294, 343, 354, 411, 417, 451, & 455. 1959; G. Taylor, Ind. Kew. Suppl. 12: 59. 1959; Yunker, B. P. Bishop Mus. Bull. 220: 232--233. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561 & 946. 1960; Prain, Ind. Kew. Suppl. 5, imp. 2, 105. 1960; Van Royen, Nov. Guin., ser. 2, 10: 240. 1960; Runner, Rep. Groff Coll. 362. 1961; Willaman & Schubert, Agr. Res. Serv. U. S. Dept. Agr. Techn. Bull. 1234: 236. 1961; Mold., Résumé Suppl. 3: 24 & 32 (1962) and 4: 9. 1962; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 432 & 433. 1963; Parham, Pl. Fiji, ed. 1, 213. 1964; F. A. Barkley, List Ord. Fam. Anthoph. 76, 166, & 207. 1965; Beard, Descrip. Cat. W. Austr. Pl., ed. 1, 91. 1965; Datta, Handb. Syst. Bot. 182. 1965; Maheshwari & Singh, Dict. Econ. Pl. India 69. 1965; Meijer, Bot. News Bull. Forest Dept. Sandakan 4: 29. 1965; Sen & Naskar, Bull. Bot. Surv. India 7: 45. 1965; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 444 & 1014. 1966; Burkill, Dict. Econ. Prod. Malay Penins. 1: 1013. 1966; Whitmore, Guide Forests Brit. Solom. Isl. 141 & 181. 1966; Mold., Résumé Suppl. 15: 13, 15, & 20 (1967) and 16: 13. 1968; Burns & Rotherham, Austral. Butterflies 94. 1969; Corner & Watanabe, Illustr. Guide Trop. Pl. 760. 1969; Menninger, Flow. Vines 405. 1970; Mold. in Menninger, Flow. Vines 334, pl. 196. 1970; Rouleau, Guide Ind. Kew. 75, 169, 352, & 353. 1970; Balgooy, Blumea Suppl. 6: [Pl. Geogr. Pacif.] 200. 1971; Mold., Fifth Summ. 1: 324, 332, 333, 336, 338--341, 343, 344, 346, 348, 351, 363, 439, 452, & 453 (1971) and 2: 518, 519, 619, 641, 760,

770, 868, & 877--878. 1971; Mukhopadhyay, Pollen Morph. Verb. [thesis]. 1971; Clifford & Ludlow, Keys Fam. Gen. Queensl. Flow. Pl. 124 & 201. 1972; Foreman, Div. Bot. Dept. For. N. Guin. Bot. Bull. 5: 63. 1972; Mold., Phytologia 23: 425 & 506. 1972; T. B. Muir, Muelleria 2: 166. 1972; Parham, Pl. Fiji, ed. 2, 298. 1972; Zepernick, Baessl.-Arch., ser. 2, 8: 64, 183, 236, 244, 259, 298, & 300. 1972; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 8, 454 & 1041. 1973; Altschul, Drugs Foods 247 & 353. 1973; Farnsworth, Pharmacog. Titles 8 (10): vii. 1973; Hartley, Dunstone, Johns, & Lamberton, Lloydia 36: 293. 1973; Hegnauer, Chemotax. Pfl. 6 [Chem. Reihe 21]: 675 & 676. 1973; Mold., Phytologia 25: 240 & 507. 1973; Thanikaimoni, Inst. Franç. Pond. Sect. Scient. Techn. 12 (2): 53 (1973) and 13: 96 & 328. 1973; Farnsworth, Pharmacol. Titles 9 (1): xi (1974) and 9 (3): ix. 1974; Gibbs, Chemotax. Flow. Pl. 3: 1752--1754. 1974; Mold., Phytologia 28: 448, 449, & 508 (1974), 31: 398 & 508 (1975), 34: 274 & 503 (1976), and 40: 361 & 511. 1978; "R. J. G.". Biol. Abstr. 66: 4918. 1978; Lord, Trees Shrubs Austr. Gard., ed. 5, xx & 376. 1978; A. L. Mold., Phytologia 40: 361. 1978; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 41, 44, 47, & 51. 1978; A. C. Sm., Allertonia 1: 412--414. 1978; F. Muell., Descr. Notes Papuan Pl., imp. 2, 1: 91 & 113 (1979) and imp. 2, 6: 46--48. 1979; Mold., Phytol. Mem. 2: 315, 322, 323, 326, 328--330, 333, 334, 336, 342, 353, 385, 392, 405, 425, & 547--548. 1980; Mold., Phytologia 48: 118, 323, 387, & 507. 1981.

Open wide-spreading trees or shrubs, erect or climbing, of decided bignoniaceous aspect, mostly glabrous throughout or the youngest parts more or less puberulent-pubescent or even tomentose; leaves simple, decussate-opposite to subopposite or verticillate in 3's, usually glabrous, mostly petiolate, exstipulate, deciduous; leaf-blades chartaceous or coriaceous, marginally entire, sometimes with basal glands or with stellate scales beneath, the venation rather prominent and distinctive, sometimes plinerved; inflorescence cymose, the cymes usually many-flowered, aggregated in terminal, often large, loosely corymbose panicles or sessile in the leaf-axils, rarely cauliflorous; flowers usually rather large and conspicuous; calyx gamosepalous, inferior, campanulate, mostly coriaceous, apically closed and apiculate when immature, but during anthesis unequally split into 2--4 short, valvate, often recurved lobes, the lobes at first coarctate-rostrate, sometimes each 2- or more-toothed; corolla gamopetalous, zygomorphic, rather large, usually white and showy, hypocrateriform or infundibular, the tube cylindric, straight, exserted, apically ampliate, the limb wide-spreading, 4- (or rarely 5-) fid, the lobes imbricate, subequal or the posterior one wider and apically entire or emarginate and the others smaller and subequal; stamens 4 (or rarely 5), either decidedly or else indistinctly didynamous or even not at all didynamous, 2 inserted in the upper part and 2 near the base of the corolla-tube or sometimes all subisometrous and all inserted near the apex, near the middle, or near the base of the tube, sometimes long-exserted; filaments either short and included or sometimes elongate, often hairy, es-

pecially basally; anthers ovate-oblong, the 2 thecae parallel; pistil single, compound, 2-carpellary; style sunken between the terminal ovary-lobes, capillary, elongate, glabrous; stigma subulate, shortly bifid or 2-toothed, sometimes infundibular; ovary superior, compound, composed of two 2-locular carpels, apically shortly to deeply 4-lobed, at first imperfectly, later completely 4-locular or by abortion 1--3-locular, the locules usually united only to about the middle, 1-ovulate; fruit drupaceous, 4-lobed and 4-locular or by abortion reduced to 1--3 large obovate pyrenes, the exocarp fleshy and succulent, the endocarp hard, 1--4-seeded, the fruit sometimes so deeply lobed as to simulate 2--4 nearly separate 1-seeded pyrenes; seed single in each locule and conforming to it in size and shape.

Type species: *Faradaya splendida* F. Muell.

This is a genus of about 23 species and infraspecific taxa native to Indonesia, Melanesia, and Polynesia, east to the Fiji and Samoan Islands and south to tropical Australia. Several species are cultivated for ornament, one of them very widely so, in tropical regions of both hemispheres and in greenhouses elsewhere. The genus was originally placed in the *Bignoniaceae*. The practically gynobasic style seems to indicate a close relationship to the *Lamiaceae*. Hooker (1891) says: "The genus is closely allied to *Vitex*, differing chiefly in the spathaceous two-lobed calyx and the lobed ovary.

Seemann (1865) reviews the history of the genus: "In the thirty-first number of his 'Fragmenta Australiae', Dr. F. Mueller defines a new genus, which, in honour of the illustrious Faraday, he names *Faradaya*, and of which only one species (*F. splendida*), discovered by Dallachy in woods at Rockingham Bay, was known to him. Dr. Mueller referred the genus to *Bignoniaceae*, and, on sending his printed description, accompanied it by a specimen of the plant, he was pleased to ask my opinion with regard to the stability of the genus. An examination convinced me that *Faradaya* was identical with a genus which for some time had engaged my attention, and about which I wrote, by the last mail, to Professor Asa Gray, as one of the persons interested in it. The genus I hold to be a sound one, but Dr. Mueller, usually so correct, was, in this instance, certainly wrong, in referring it to *Bignoniaceae*, with which the plant has nothing to do, it being a genuine member of the Natural Order *Verbenaceae*, closely related to *Clerodendron* and *Oxera*. Let me state the history of the genus. In 1862, I described in the tenth volume of the 'Bonplandia', p. 249, a *Clerodendron* from the Tongan or Friendly Islands, under the name of *C. Amicorum*. Shortly afterwards, Asa Gray, travelling over the same ground, also came across this species, and had already given it exactly the same name when the 'Bonplandia' reached him. On re-describing it in the Proceedings of the American Academy, vol. vi. p. 50, he added another species, *C. ovalifolium*, from the Viti Islands, and pointed out that both agreed in their 4-lobed, almost regular calyx and corolla, and 4 stamens, at the same time proposing the sectional name *Tetrathyranthus* for these two *Clerodendrons*.

At the beginning of this year an allied third species, collected by Mr. J. Storck in Viti, reached me, which also had a 4-lobed corolla and 4 stamens, but the calyx was almost invariably 2-lobed, the lower lobe frequently splitting into 2. This led to renewed examination. The calyx I found to be closed before anthesis and splitting or rather tearing irregularly into 4, 3, or 2 lobes, when the corolla is forcibly pushed through a very narrow aperture at the extreme end, indicated by four very minute points, one would hardly call them teeth, though they are in reality the teeth of the limb of the calyx. The splitting of the calyx is analogous to what we find in the genus *Tecoma* (as now circumscribed) and several genera of *Eubignoniaceae*; we have nothing like it in the genuine *Clerodendrons*, and, I think, there can be no doubt that this set of plants must constitute a separate genus. I meant to have taken this view of the case in dealing with them in my 'Flora of Viti', and to have adopted A. Gray's sectional name for the genus; but as I now find the species from Rockingham Bay to be a congener, and as a new name has actually been published, I shall adopt Mueller's name."

For many years, *Faradaya* was considered to be a genus of 1 or 2 species. Bentham (1876) considered it to have 2 species "quarum una typica Australiana panicula terminali, fructus carpello 2-pollicari [*F. splendida*]....altera ins. Viti incola congener videtur etsi inflorescentia densa ad nodos lateralis et fructus ignotus [*F. ovalifolia*] excl. tamen *F. amicorum*, quae *Clerodendri* seu *Tetrathyranthi* sp." *F. amicorum*, however, is now regarded as also a true *Faradaya* species

Baillon (1891) regarded *Faradaya* as a genus of 4 species native only to "Oceania"; Briquet (1895) recognized "4 or 5". Angely (1956) recognized 22 and Mukherjee & Chanda (1978) give 23 as the number.

Ewart & Rees (1912) aver that *Huxleya* Ewart is related to *Faradaya* but differs in having a 5- (instead of 2-) lobed calyx, a 5- (instead of 4-) lobed corolla, equal (instead of didynamous) stamens, and a 2- (rather than 4-) lobed ovary, as well as being only a foot-high upright herb (rather than woody climbers), having solitary flowers instead of their being in terminal panicles, and in having only small linear leaves. The genera are certainly very dissimilar and cannot possibly be confused. Beer & Lam (1936) point out that *Faradaya*, rather, has much the habit of *Archboldia* Beer & Lam. Junell (1934) compares it to the even more similar genus *Oxera* Labill, noting that "Abgesehen davon, dass der Fruchtknoten nicht so stark lobiert ist, gleicht diese Gattung *Oxera* in ihrem Fruchtknotenbau." He illustrates a cross-section of the ovary at the insertion of the ovules and notes "In dieser Höhe liegen keine Einkerbungen in der Medianlinie vor. Der freie Fruchtblattrand, der auch bei dieser Art nur sehr kurz ist, besitzt gut ausgebildetes leitendes Gewebe, das man hinab bis zur Mikropyle verfolgen kann. Die Stellung der Samenanlagen ist dieselbe wie bei *Oxera*.....Der Nuzellus ist syndermal und tenuinuzellat."

The genus, as noted above, is named in honor of Michael Faraday (1791--1867), world famous English chemist and physicist.

Regarding Baillon's genus *Schizopremna* it may be noted that it was upheld by Briquet (1895) and Barkley (1965), but reduced by Van Steenis (1955) to synonymy under *Faradaya*, in which disposition Airy Shaw (1966) agrees. Junell (1934) says of it "Von dieser Gattung, die nur ein Art umfasst, stand mir kein Material zur Verfügung. Lam (1921) ist der Ansicht, dass Baillons lückenhafte Beschreibung darauf hindeutet, dass diese Pflanze entweder eine *Premna* ist, oder überhaupt nicht zu *Verbenaceae* gehört."

Van Steenis (1955) has given a fascinating account of how he finally determined the true identity of Baillon's plant: "In a recent plant-geographical study of the Lesser Sunda Islands by Mr C. Kalkman the genus *Schizopremna* Baill. (1892), only known from a very brief diagnosis as an endemic genus from Timor (1897), passed again my attention. After Baillon nobody seems to have made a renewed study of the type. No specimen seems to be present in the general larger herbaria, also not Paris where Baillon's original material should be preserved. Dr. Moldenke, who has examined an enormous number of sheets kindly informed me that he had never found a specimen.

"Thanks to the cooperation of Dr H. Sleumer, Dr J. Leandri and Mr J. H. Kern I received on loan, from Baillon's private herbarium, a tiny envelope containing one flower in the bud stage and a loose corolla of what is presumably the type, said to have been collected by Mr Jacquinet in Timor, and later the original sheet which was inserted in the Paris general herbarium as a *bis-genus* at the end of the family.

"The type material is only provided with buds and the specimen is rather poor. In scanning Malaysian verbenaceous collections no result was obtained. I came to the conclusion that my despair to locate identical material was due to an error of some sort. Mr Kern told me he had found at Paris a specimen of *Cyperus* labelled in exactly the same way: 'Coupang (Timor), M. Jacquinet'. This species is endemic in Melanesia and was certainly erroneously localized in Timor. He had also found out that the hand-writing on these labels is not that of Jacquinet himself.

"A search among the West Pacific *Verbenaceae* was crowned with success; an exactly matching specimen is Reinecke 173 from Samoa identified as *Faradaya amicornum* (Seem.) Seem., duplicates of which will be represented in various herbaria. At Leyden there is only one other specimen of this species viz Brass 2642 from the Solomon Islands. Furthermore there is a specimen from Opulo Island (Samoa) (Christophersen 188) labelled *F. powellii* Seem. If this is representative of Seemann's species indeed, I regard it conspecific with *F. amicornum* Seem.

"It appears that there is a possibility that the *Cyperus* and '*Schizopremna*' specimens mentioned above belong to a set of Jacquinet's specimens which by error have been wrongly localized in Timor; in all probability they have been collected in Samoa, Tonga, or some other island of Melanesia. Thus the name of Jacquinet has to be added to the list of names belonging to wrongly localized specimens I compiled in the *Flora Malesiana* (1950)."

It should also be mentioned here that Gibbs (1974) has reported

saponins as "probably present" in the genus *Faradaya*. Members of the genus are sometimes attacked by the parasitic rust fungus, *Phyllosticta faradaya*.

In the genetic bibliography (above) it may be worth pointing out that the Seemann's "Flora Vitiensis" reference is often cited as "1865-1873", but the plate that concerns us here was actually issued in 1866. The Schumann & Lauterbach (1900) reference is often cited erroneously as "1901". Fedde, in Justs Bot. Jahresbericht, vol. 47 (2), refers *Faradaya* to a page "45", but this appears to be a printer's error for page "245".

Baillon's work (1891) is cited as "1892" by Durand & Jackson (1906), but the part that concerns us here was actually published in June or July of 1891. Briquet's 1895 work is cited by them as "1894", the paper-cover date of the section, but according to Stafleu, Taxonomic Literature, p. 148 (1967) pages 97--224 were not issued until 1895. The Foreman (1972) work is erroneously dated "1971" on its title-page.

References to Bentham & Hooker's "Genera Plantarum" are usually cited as "Benth. & Hook. f.", but the section of this work on the *Verbenaceae* was actually authored by Bentham alone [cfr. "On the joint and separate work of the authors of Bentham and Hooker's Genera Plantarum" in Journ. Linn. Soc. Lond. Bot. 20: 304--308. 1883].

Van Royen (1960) cites his nos. 4518 & 4611, from New Guinea, as unidentified *Faradaya* species. Whitmore (1966) cites his nos. 2460 & 2781 also as representing an unidentified *Faradaya* which is an "occasional woody climber in lowlands" of the Solomon Islands and there bears the local name of "kwalo cho". It is probably that he is referring to either *F. amicum* (Seem.) Seem. or *F. salomonensis* (Bakh.) Mold. Foreman (1972) cites *Kajewski 1685* as an unidentified species from Bougainville -- only *F. amicum* is known to me from that island.

The Carr 15748, distributed as a *Faradaya* species, actually is *Gmelina dalrympleana* var. *schlechteri* (H. J. Lam) Mold.

Excluded species:

Faradaya chrysoclada K. Schum. in K. Schum. & Lauterb., Nachtr.

Fl. Deutsch. Südsee 370--371. 1905 = *Deplanchea tetraphylla* (R. Br.) Van Steenis, *Bignoniaceae*.

FARADAYA ALBERTISII F. Muell., Descr. Notes Papuan Pl., imp. 1, 6: 46--47. 1875.

Bibliography: F. Muell., Descr. Notes Papuan Pl., imp. 1, 6: 46--48. 1875; K. Schum. & Hollr., Fl. Kais. Wilhelmsl. 122. 1889; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 170. 1902; Pulle in Lorentz, Nov. Guin., ser. 1, 8 (1): 402 (1911) and ser. 1, 8 (2): 686. 1914; H. J. Lam, Verbenac. Malay. Arch. 229--231, 236, & 365. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71. 1921; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 170. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 92. 1942; H. N. & A. L. Mold., Pl. Life 2: 48. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 149 & 185. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 170. 1959; Mold., Résumé 201, 218, &

455, 1959; Sen & Naskar, Bull. Bot. Surv. India 7: 45. 1965; Mold., Résumé Suppl. 15: 15. 1967; Mold., Fifth Summ. 1: 336 & 363 (1971) and 2: 877. 1971; T. B. Muir, Muelleria 2: 166. 1972; F. Muell., Descr. Notes Papuan Pl., imp. 2, 6: 46--48. 1979; Mold., Phytol. Mem. 2: 326, 353, & 547. 1980.

A tall, climbing shrub or shrubby vine, to at least 3 m. tall, or perhaps sometimes a small tree, the young parts at first sparingly hairy, later glabrescent; stems to 2 cm. in diameter; leaves all decussate-opposite; petioles 1.5--5.5 cm. long, glabrous; leaf-blades thinly but firmly chartaceous to thick-chartaceous, lanceolate-ovate or narrowly ovate to elliptic, oblong, or ovate-oblong, 11--23 cm. long, 4.5--13 cm. wide, apically subabruptly and conspicuously long-acuminate, marginally entire, basally rounded or truncate, glabrous but not shiny on both surfaces, not lepidote beneath but often bearing a few, flat, orbicular glands especially near the base beneath; secondaries 6--10 per side, not especially conspicuous nor prominent on either surface or quite prominent beneath; veinlet reticulation often also conspicuous beneath; cymes axillary, shorter than the subtending leaves, to about 3.5 cm. long (excluding the flowers); primary and secondary peduncles abbreviated; pedicels very short; calyx rather long, mostly 1.6--1.7 cm. long during anthesis, glabrous, apically pointed in horn-like fashion in bud, cleft unilaterally to the middle when full grown, the 2 lobes semi-lanceolate and apically narrowly acuminate; corolla infundibular, white, externally glabrous, internally papillose-pilose near the stamen insertion, its tube 3--3.5 cm. long, much longer than the calyx, the lobes broadly ovate, 2 cm. long, 1.5 cm. wide, apically rounded; stamens distinctly didynamous, 2 inserted near the base and 2 at the middle of the corolla-tube; filaments of the longer pair 5--6 cm. and those of the shorter pair 4.5--5 cm. long, basally thickly short-pilose; anthers ellipsoid, basally bilobed; style slender, 6--6.5 cm. long, glabrous; stigma shortly bifid; ovary globular, 4-furrowed, externally densely hairy or thinly gray-velvety.

This species is based on an unnumbered collection made by Count Luigi Maria d'Albertis (1841--1901) -- in whose honor it is named -- on the Fly River in New Guinea. Mueller (1886) comments that "This species is closely akin to *F. splendida*; the petioles are however thicker, the leaves of a firmer texture with stronger nervation and venation and also with a longer and more pointed terminal protraction, and they are not shining; the stalks and stalklets of the flowers are much shorter, by which means the inflorescence becomes very contracted; the bud of the calyx is longer and acutely pointed; perhaps the fresh flowers and ripe fruits may exhibit other marks of discrimination. A comparison should still be instituted with *F. Papuana* from Andaj, described by the lamented Dr. Scheffer.....but therein the narrow acumination of the leaves is not alluded to, while according to Dr. Scheffer's description the petioles of his plant are longer, the flowers larger, and the stamens inserted lower on the corolla-tube. He records simultaneously the interesting observation,

that sometimes all four of the large distinct fruitlets become developed."

Lam (1919) cites Römer 284 and Versteeg 1075 from West Irian, but in his 1921 work he reduced the taxon to synonymy under *F. splendida* F. Muell. It has been collected in anthesis in May, August, September, and November. Sen & Naskar (1965) list it as cultivated in India. Lam describes the calyx as 2--2.5 cm. long, but it may be that it is the fruiting-calyx that he is describing. In his personal work copy of his 1919 work he has pencilled out the line in his description which reads "stamens didynamous, 2 being inserted near the base of the corolla-tube". Pulle (1911, 1914) cites the same Römer and Versteeg collections cited by Lam.

The collector of the type specimen of this species was a well-known Italian explorer in the Pacific region.

Citations: NEW GUINEA: Papua: *Albertis s.n.* (Mb--type, Ld--photo of type, N--photo of type). Territory of New Guinea: *Bauerlen s.n.* [Strickland River, 1885] (Mb); *M. S. Clemens 9316* (B). West Irian: *Djamhar 378* (Bz--72873); *Pleyte 478* (Bz--72870). CULTIVATED: Java: *Herb. Hort. Bot. Bogor. XV.F.9* (Bz--21034, Bz--21037, Bz--25568, Bz--26550, Bz, Er, Le--920.299-253, Le--922.64-391, N, N, Ut--52637), *XV.F.10* (Bz--26306, Bz, N), *XV.F.10a* (Bz), *XV.F.11* (Bz--26308, N), *XV.F.12* (Bz--26309, Bz--26310, Bz, Bz, N), *XV.F.12a* (Bz--26311, Bz--26551, Bz, Bz, N, N), *XV.F.20* (Bz--26324, Bz--26325, Bz, Ld, N, N, N); *Schiffner 2465* (Le--938.265-163, N).

FARADAYA AMICORUM (Seem.) Seem., Journ. Bot. Lond. 3: 258. 1865.

Synonymy: *Clerodendron amicum* Seem., Bonplandia 10: [249]--250. 1862. *Clerodendron (Tetrathyranthus) amicum* A. Gray, Proc. Amer. Acad. 6: 50. 1862. *Terminalioides Soland. ex Seem.*, Fl. Vit. 190, in syn. 1866. *Schizopremna timorensis* Baill., Hist. Pl. 11: 119. 1891. *Faradaya amicum* Seem. ex Van Steenis, Act. Bot. Neerl. 4: [477]. 1955. *Faradaya savavensis* Parks ex Mold., Fifth Summ. 2: 519, in syn. 1971. *Faradaya savauensis* Parks, in herb.

Bibliography: Barclay & Hinds, Hook. Journ. Bot. 2: 211. 1843; A. Gray, Proc. Amer. Acad. 6: 50. 1862; Seem., Bonplandia 10: [249]--250. 1862; Seem., Journ. Bot. Lond. 3: 257 & 258. 1865; Seem., Fl. Vit. 189--190 (1866) and 441. 1873; Benth. in Benth. & Hook. f., Gen. Pl. 2 (2): 1154--1155. 1876; F. Muell., Descr. Notes Papuan Pl., imp. 1, 8: 48. 1886; Baill., Hist. Pl. 11: 92, 113, & 119--120. 1891; Drake del Castillo, Illustr. Fl. Ins. Mar. Pacif. 261. 1892; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 946. 1893; Hemsl., Journ. Linn. Soc. Lond. Bot. 30: 187 & 206. 1894; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 164, 166--167, & 173--174 (1895) and ed. 1, 4 (3a): 382 & 383. 1897; Reinecke, Engl. Bot. Jahrb. 25: 672. 1898; Burkill, Journ. Linn. Soc. Lond. Bot. 35: 50. 1901; Krämer, Samoa-Inseln 2: 118 & 373. 1903; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 432. 1904; Post & Kuntze, Lexicon 688. 1904; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 385. 1906; H. J. Lam, Verbenac. Malay. Arch. 92, 93, 124, 319, 365, & 368. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 27. 1921; Junell, Symb. Bot. Upsal. 1

(4): 84. 1934; Mold., Brittonia 1: 261. 1934; Bakh., Journ. Arnold Arb. 16: 71 & 472. 1935; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 385. 1941; Kanehira & Hatusima, Bot. Mag. Tokyo 56: 114. 1942; Mold., Alph. List Inv. Names 16. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 68, 69, & 92. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 946. 1946; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 149, 151, 185, & 195. 1949; Van Steenis, Act. Bot. Neerland. 4: [477]--478. 1955; Bremekamp, Biol. Abstr. 31: 221. 1957; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 385. 1959; Mold., Résumé 206, 207, 260, 343, 417, & 455. 1959; G. Taylor, Ind. Kew. Suppl. 12: 59. 1959; Yuncker, B. P. Bishop Mus. Bull. 220: 232--233. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 946. 1960; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 432. 1963; Whitmore, Guide Forests Brit. Solom. Isls. 141 & 181. 1966; Rouleau, Guide Ind. Kew., imp. 1, 169 & 353. 1970; Mold., Fifth Summ. 1: 343, 344, 351, & 439 (1971) and 2: 519, 619, 770, & 877. 1971; Foreman, Div. Bot. Dept. For. N. Guin. Bot. Bull. 5: 63. 1972; Zepernick, Baessl.-Arch., ser. 2, 8: 64, 183, 236, 244, 259, 298, & 300. 1972; Mold., Phytologia 25: 240 (1973) and 28: 448. 1974; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 44. 1978; F. Muell., Descr. Notes Papuan Pl., imp. 2, 8: 48. 1979; Mold., Phytol. Mem. 2: 330, 333, 342, 405, & 547. 1980.

A climbing vine or liana, climbing in tall trees, or sometimes a shrub, 2 m. tall and wide [Meebold 8230] or to 5 m. tall [Barclay], or even a "small tree, 2--4 m. tall" [Parks 16185]; branches subterete, at first tomentellous, finally glabrous; leaves decussate-opposite; petioles short, only 3--4 cm. long; leaf-blades coriaceous, broadly oval or ovate to elliptic-obovate or cuneate-obovate, obovate-oblong, or obovate, 20--28 cm. long, 7.5--15 cm. wide, apically abruptly short-acuminate, marginally entire, basally acute or attenuate into the petiole, glabrous on both surfaces, pinnately veined; inflorescence axillary and trichotomous or more usually terminal and corymbosely paniculate, at first tomentellous, finally glabrous; cymes corymbose-paniculate, many-flowered, canescent-puberulent; flowers large, tetramerous; calyx campanulate, coriaceous, 4-lobed or 4- or 5-fid, apically obtuse or almost rounded, the lobes ovate, apically very obtuse; corolla showy, white, its tube straight, subhypocrateriform or subinfundibular, at most 2.5 cm. long, about 4 times as long as the calyx, glabrous, the lobes 4, short, 3 times as long as the calyx, ovate, subequal, recurved, imbricate in bud; stamens 4, short, included or only slightly exserted; anthers ovate, the thecae parallel; pistil bicarpellary; style sunken in the apical ovary-lobes; stigma 2-toothed; ovary 4-celled, each carpel producing 2 cells, apically deeply 4-lobed, the cells united only to their middle, each 1-ovulate; immature fruit small, black, composed of up to 4, 1-seeded, woody nutlets.

Seemann (1862) designated no type for this species, but cited (1) Barclay 3373 from Vavau, deposited at the British Museum, (2) Harvey s.n. from Vavau and Lefuka, in the Hooker Herbarium at Kew, and (3) Wilkes, U. S. Expl. Exped. s.n. from Samoa in the Bentham Herbarium at Kew. Of these, I feel that the first-mentioned should

be designated as the type. Seemann comments that "*C. Amicorum* ähnelt [*Clerodendron*] innerme, aber die Corolle ist nicht so schlank wie bei letzterer und der Kelch verschieden." Regarding the early history of the species he notes that "Schon im J. 1840 sammelte Hr. Barclay, der Sir E. Belcher als Botaniker auf seinen Reise um die Welt begleitete, auf den Tonga-Inseln eine neue *Clerodendron*-Art, die seltsamer weise in Benthams Aufzählung der von Barclay und Hinds in der Südsee gesammelten Pflanzen....angelassen ist. Im J. 1855 sammelte Prof. W. H. Harvey zum zweiten Male in jener Inselgruppe, doch auch diese Exemplare sind bis jetzt noch nicht bestimmt. Im J. 1840 sammelten sie Botaniker der amerikanischen Expedition auf den Samoa- oder Schiffer-Inseln. Da die Pflanze zuerst auf den Tonga- oder Freundschafts-Inseln gefunden ward, so nenne ich sie *Clerodendron Amicorum*."

Gray (1862), apparently proposing a subgeneric name, *Tetrathyranthus*, to embrace this one species, notes that "The tetramerous flowers remind us of Labillardière's genus *Oxera*, of New Caledonia, but in all other particulars it is a *Clerodendron*. Since the above character was drawn up, Dr. Seemann has published the species as a new one, under the same name, comparing it with *C. inerme*, but without noticing the tetramerous character." The species was based by Gray on an unnumbered Wilkes, U. S. Exploring Expedition collection from Tutuilla, Samoan Islands.

Benthams (1876) recognized only two species of *Faradaya*: *F. splendida* F. Muell. from Australia and *F. ovalifolia* (A. Gray) Seem. He then says: "excl. tamen *F. amicorum*, quae *Clerodendri* seu *Tetrathyranthi* sp. [est]."

Some authors (e.g., Seemann) write the specific epithet of *F. amicorum* with an uppercase initial, a practice still continued for geographic and/or personal names in some quarters.

In regard to the supposed genus, *Schizopremna*, from Timor, Lam (1921) remarks that "Certainly Baillon's description of the genus is a very incomplete one, so that we can not decide, if the genus really is a good one, and thus is to be retained. There are no indications at all, that the plant is found back ever since [*sic*; = has ever been found since the original collection], and we must stipulate the possibility that it either belongs to *Premna*, or even not belongs to the *Verbenaceae* (it might be a *Labiata*). But whatever may, finally, be the decision is the matter, we may draw the attention to the apparent consimilarity with *Premna cauliflora* from Borneo -- described by Stapf in the *Transact. of the Linn. Soc.*, Ser. II, IV, 215, 1894 -- a species which, as we already mentioned on p. 124 of our 'Verb' [1919], in several points differs from the typical *Premna*." Junell (1934), also not having seen any material of the type collection, adds nothing.

It remained to Van Steenis (1955) finally to locate Baillon's type and to determine that it actually represents *Faradaya amicorum*, collected by Jacquinot, not on Timor as claimed by Baillon, but certainly either in the Samoan or Tongan Islands.

Collectors have encountered *Faradaya amicorum* in forests and forest margins, at 100--300 m. altitude, in flower in May and December,

and in fruit in June. Yuncker (1959) describes it as "climbing in trees in forests" and the edges of forests in Tonga and refers to "Hendry & Burkill's lists". Foreman (1972) cites *Schodde & Craven 3619* from Bougainville. Burkill (1901) lists it only from "Eva; Samoa". Seemann (1866) and Drake del Castillo (1892) cites unnumbered collections of Banks & Solander, Barclay, Harvey, and the United States Exploring Expedition from the Tongan Islands and another U. S. Exploring Expedition collection from the Samoan Islands.

Hemsley (1894) cites unnumbered collections of Banks & Solander, Barclay, Harvey, and Lister from the "Navigator Islands only". Zepernick (1972), listing the species from Samoa, Tonga, and Fiji, reports that in Samoa it is used medicinally in the treatment of childrens' fevers -- "Man zerstöszt Früchte der *Fagraea* und gibt die Flüssigkeit dem Kinde zu trinken."

Yuncker (1959) asserts that it is "occasional in wooded areas throughout Tonga", citing *Banks & Solander s.n.* and *Yuncker 15242* from Tongatapu, *Lister s.n.* and *Yuncker 15368* from Eva, and *Barclay s.n.*, *Crosby s.n.*, and *Harvey s.n.* from Vavau.

Vernacular names reported for the species are "afa", "fililitavati'o", and "mamalupe".

The *Faradaya amicorum* var. *salomonensis* of Bakhuijzen is now known as *F. salomonensis* (Bakh.) Mold., which see.

Material of *Faradaya amicorum* has been misidentified and distributed in some herbaria as *F. powellii* Seem., *F. savaiiensis* Rech., and *Clerodendron* sp. On the other hand, the *Parks 16137* & *16216*, distributed as *F. amicorum*, actually represent *F. lehuntei* (Horne) A. C. Sm., *Setchell 64* & *539* are *F. powellii* Seem., and *A. C. Smith 1717* is *F. vitiensis* (A. Gray) Seem.

Citations: TONGAN ISLANDS: Eua: *H. E. Parks 16185* (Ca--297197), *16337* (Ca--297354, W--1527035); *Yuncker 15368* (B. Ss, W--2128395, Yu). Tongatapu: *Yuncker 15242* (Bi, Ld, W--2128367, Yu). SAMOAN ISLANDS: Matantuu: *Vaupel 363* (Mu). Tau: *Garber 671* (Bi, N. W--1655716). Tutuila: *Herb. A. Gray s.n.* [Samoa] (Pa); *Kuntze 23011* (N, N); *Meebold 8230* (Mu, Mu), *16485* (Mu); *Wilkes, U. S. Expl. Exped. s.n.* [Samoa Isls.] (N, T). Upolu: *Reinecke 173* (Bi, Bz--21021).

FARADAYA DIMORPHA Pulle in Lorentz, Nov. Guin., ser. 1, 8 (2): 686. 1912.

Synonymy: *Faradaya* prob. *ternifolia* F. v. Müll. ex Pulle, Nov. Guin., ser. 1, 8 (1): 402. 1911. *Faradaya dimorpha* var. *opposita* H. J. Lam, Verbenac. Malay. Arch. 233. 1919. *Faradaya dimorpha* var. *ternata* H. J. Lam, Verbenac. Malay. Arch. 233. 1919.

Bibliography: Pulle in Lorentz, Nov. Guin., ser. 1, 8 (1): 402 (1911) and ser. 1, 8 (2): 686. 1912; Fedde & Schust., Justs Bot. Jahresber. 40 (2): 335. 1915; H. J. Lam, Verbenac. Malay. Arch. 229, 232--234, & 365. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71 & 72. 1921; Prain, Ind. Kew. Suppl. 5, imp. 1, 105. 1921; H. J. Lam in Lauterb., Engl. Bot. Jahrb. 59: 94. 1924; Mold., Alph. List Inv. Names 24. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 92 (1942) and ed. 2, 149 & 185. 1949; Mold., Résumé 199, 201, 218, 294, & 455. 1959; Mold., Fifth Summ. 1: 332,

336, 338, & 363 (1971) and 2: 518 & 878. 1971; Mold., Phytol. Mem. 2: 322, 326, 328, 353, & 547. 1980.

A small glabrous tree, large climbing shrub, or liana; branchlets obscurely tetragonal, glabrous; leaves decussate-opposite or ternate; petioles 0.4--3.6 cm. long, striate, glabrous; leaf-blades chartaceous to subcoriaceous, ovate or ovate-oblong to ovate-lanceolate or oblong-lanceolate, 9--20 cm. long, 2.5--11.5 cm. wide, apically abruptly or gradually acuminate, marginally entire, basally obtuse or rounded to subcordate and trinerved, glabrous and shiny on both surfaces, often with up to 10 glands in the axils of the lowest pair of secondaries; secondaries 4--7 pairs; vein and veinlet reticulation prominent on both surfaces, the 2 basal secondaries ascend to parallel the leaf-margins but remain about 7 mm. distant from them; cymes axillary and shorter than the subtending leaves or crowded to form a large terminal panicle, long-pedunculate, many-flowered, obscurely trichotomous; peduncles 3--6 cm. long, flattened, glabrous; panicle to 9 cm. long and 14 cm. wide, with large foliaceous bracts that diminish in size towards its apex; pedicels 5--7 mm. long, glabrous; flowers showy, fragrant, with a sweet-sourish carnation or honeysuckle scent; calyx (in bud) subobtusely, cleft to the middle to form 2 or 3 apically subobtusely and apiculate lobes, 9--13 mm. long, externally glabrous but with some large glands; corolla white or creamy-white [or perhaps red (?)], waxy. infundibular, about 3 cm. long, glabrous, its tube 1.4--1.5 cm. long, externally glabrous, the 4 lobes 1--1.3 cm. long, dorsally glabrous or sparsely pilose, the 2 larger lobes about 18 mm. wide and apically emarginate, the 2 smaller ones suborbicular and apically obtuse, only 14 mm. wide; stamens inserted in the throat of the corolla-tube, 4--5 cm. long; filaments glabrous, long-exserted; anthers ovate, thick, 2.5 mm. long; pollen-grains extraordinarily large (about 150 μ); style 5--6.5 cm. long; stigma somewhat ampliate; ovary tetragonal, 4-furrowed, somewhat 4-lobed during anthesis, externally densely yellow-hirsute; fruit a very large, deeply 4-lobed drupe or with the parts almost separate and free, each 1-seeded, woody, 4--5.5 cm. long, sometimes slit on the ventral side, sometimes externally sparsely pilose.

This species is based on Von Römer 146 from "am Noord-Fluss in der Ebene" in West Irian, New Guinea, collected in flower and fruit on September 7, 1909. Pulle (1914) comments that "Die Art kommt am meisten überein mit *F. parviflora* Warb., unterscheidet sich aber u.a. durch den spitzen Kelch und die viel grösseren Blüten."

Lam (1919) comments that "We are not sure about the fact, whether ternate and opposite leaves occur on the same tree. If this should not be the matter [=case] -- which could not be affirmed by the examination of the specimina seen -- this should be a legitimate reason for founding 2 varieties: a var. α *opposita* and a var. β *ternata*. So Pulle's observation, that the leaves of the ternate form should, in shape and in dimension, be different from that of the opposite form, should agree with this supposition." Although Lam's argument is in awkward and labored English,

his argument is a valid one which, however, he later settled, at least to his own satisfaction, for, in his 1921 work, he comments that "We discovered (in specimens, cultivated in the Botanical Garden of Buitenzorg), that opposite and ternate leaves occur on the same plant. There is, therefore, no reason for making 2 varieties." He cites in the two works from New Guinea Römer 146 & Versteeg 1045 with certainty, and, with a question, also Moszkowski 180, 183, 432. In his 1924 work he cites with certainty Moszkowski 432 and Weinland 180 & 143 -- the two latter probably the same collections which he attributed to Moszkowski in the earlier work.

Collectors have found this plant growing in primary and secondary forests and along riverbanks in rainforests, at sealevel to 1750 m. altitude, in flower in March and May and from September to December. Van Royen found it climbing on *Inocarpus fagiferus* in periodically flooded swampy areas behind low coastal dunes. The corollas are described as having been "white" on Aet & Idjan 833, Brass 8069, Buwalda 5888, and Van Royen 3124 and as "creamy-white" on Otero s.n.

Material of *F. dimorpha* has been misidentified and distributed in some herbaria as *F. parviflora* Warb. and as *Apocynaceae*.

Citations: MOLUCCA ISLANDS: Ceram: Buwalda 5888 (Bz--72960); Kornassi 886 (Bz--21013, Bz--21014, Le--924.324-507, N). Mysole: Teijsmann s.n. [Waigama] (Bz--21017, Bz--21018). NEW GUINEA: Papua: Brass 8069 (Le--938.187-368); Hartmann s.n. (Mb). West Irian: Eyma 5100 (Bz--72619), III (A, Bz--72609), IV (Bz--72610, Er); Gyldenstolpe s.n. (S); Moszkowski 29 (B); Römer 146 (Bz--21015--isotype, Bz--25569--isotype, Le--926.340-232--type, Ld--photo of isotype, N--photo of isotype); Van Leeuwen 9948 (Bz--72673, Bz--72699), 10991 (Bz--72671); Van Royen 3124 (Ca--1341507); Versteeg 1045 (Bz--21016, Le--910.205-2251, N, Ut--13811). NEW GUINEAN ISLANDS: Japen: Aet & Idjan 833 (Bz--72746). CULTIVATED: Puerto Rico: Otero s.n. [3/25/36] (N), s.n. [May 1937] (N). Queensland: C. T. White 2362 (Bz--21040).

FARADAYA DIMORPHA var. CAULIFLORA Mold., Phytologia 4: 53. 1952.

Bibliography: Mold., Phytologia 4: 53. 1952; Mold., Résumé 201 & 455. 1959; Mold., Fifth Summ. 1: 336 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 326 & 547. 1980.

This variety differs from the typical form of the species in having its inflorescences cauliflorous rather than axillary and terminal.

It is based on Brass 7427 from Oroville Camp, 30 miles above D'Albertis Junction on the Fly River, Papua, collected in August of 1936 and deposited in the Rijksherbarium at Leiden. The collector describes the plant as a large canopy liana with cauliflorous inflorescences and white malodorous flowers [corollas]. Thus far it is known to me only from the type collection.

Citations: NEW GUINEA: Papua: Brass 7427 (Ld--photo of type, Le--938.187-383--type, N--isotype, N--photo of type).

FARADAYA HAHLLII Rech., Feddes Repert. Spec. Nov. 11: 185. 1912.

Bibliography: K. Rech., Feddes Repert. Spec. Nov. 11: 185. 1912; Fedde & Schust., Justs Bot. Jahresber. 40 (2): 335. 1915; Prain, Ind. Kew. Suppl. 5, imp. 1, 105. 1921; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 68 & 92 (1942) and ed. 2, 150 & 185. 1949; Mold., Résumé 204 & 455. 1959; Prain, Ind. Kew. Suppl. 5, imp. 2, 105. 1960; Mold., Fifth Summ. 1: 339 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 329 & 547. 1980.

A scandent glabrous shrub; leaves decussate-opposite; petioles 4--6 cm. long; leaf-blades ovate, 15--20 cm. long, 8--10 cm. wide, apically acuminate, marginally entire, basally rounded, glabrous on both surfaces, the venation prominent; inflorescence terminal, corymbose, many-flowered, congested, the flowers medium in size (for this genus), slightly fragrant; bracts small, subulate or subdilated; pedicels scarcely 1 cm. long; calyx before anthesis globose or ovoid-globose, apically obtuse, afterwards dehiscing into 2 acuminate segments 4--6 mm. long; corolla white, about 2.5 cm. long in all, the tube 10--12 mm. long, the lobes forming a cup 10 mm. long and wide; stamens inserted in the throat of the corolla-tube; filaments about 3 cm. long, long-exserted, glabrous; ovary externally subtomentose; drupe single.

This poorly known species is based on *K. Rechinger* 3927 from Kabakavi, New Britain, and presumably is deposited in the Vienna herbarium. Thus far the species is known only from the original collection.

FARADAYA LEHUNTEI (Horne) A. C. Sm., Allertonia 1: 412--413. 1978.

Synonymy: *Clerodendron le hunttei* Horne, Year Fiji 259, nom. nud. 1881. *Clerodendron lehuntei* Horne ex J. G. Baker, Journ. Linn. Soc. Lond. Bot. 20: 369. 1883. *Faradaya neo-ebudica* Guillaum., Journ. Arnold Arb. 13: 28. 1932. *Clerodendrum lehuntei* Horne ex Mold., Known Geogr. Distrib. Verbenac., ed. 1, 68 & 90. 1942. *Faradaya vitiensis* var. *puberulenta* Mold., Phytologia 3: 60--61. 1949. *Faradaya neo-ebudica* var. *puberulenta* (Mold.) Mold., Phytologia 4: 53. 1952. *Clerodendrum lehuntei* "Horne ex Baker" apud Parham, Pl. Fiji Isls., ed. 1, 213. 1964. *Faradaya neo-ebudica* var. *neo-ebudica* [Guillaum.] ex Parham, Pl. Fiji Isls., ed. 1, 213. 1964. *Clerodendrum lehuntii* Horne ex Mold., Fifth Summ. 343. 1971. *Faradaya neo-ebudica* var. *puberulenta* Mold. apud A. C. Sm., Allertonia 1: 412, in syn. 1978.

Bibliography: Horne, Year Fiji 259. 1881; J. G. Baker, Journ. Linn. Soc. Lond. Bot. 20: 369. 1883; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893; Guillaum., Journ. Arnold Arb., 13: 28. 1932; A. W. Hill, Ind. Kew. Suppl. 9: 115. 1938; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 572. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 68, 90, & 92. 1942; H. N. & A. L. Mold., Pl. Life 2: 68. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 150, 151, 182, & 185. 1949; Mold., Phytologia 3: 60--61 (1949) and 4: 53. 1952; Mold., Résumé 205, 206, 218, 284, 451, & 455. 1959; Mold., Résumé Suppl. 4: 9. 1962; Mold. in Menninger, Flow. Vines 334. 1970; Mold., Fifth Summ. 1: 341, 343, & 344 (1971) and 2: 519, 868, & 878. 1971; "R. J. G.", Biol.

Abstr. 66: 4918. 1978; A. C. Sm., Allertonia 1: 412--413. 1978; Mold., Phytol. Mem. 2: 330, 333, 334, 353, 392, & 547. 1980; Mold., Phytologia 51: 396. 1982.

A tall scandent shrub; bark fulvous; youngest parts of the branches densely flavescent-puberulent, older parts glabrous; leaves decussate-opposite; petioles 1--4 cm. long; leaf-blades subcoriaceous, broadly or very broadly ovate to obovate, 7.5--14 cm. long, 5--11 cm. wide, apically very shortly and abruptly acuminate to obtuse or subrounded, marginally entire, basally cuneate or deltoid, at least when immature densely flavescent-puberulent, eventually glabrous on both surfaces; secondaries 4--6 pairs, merely prominent beneath; veinlet reticulate prominent beneath; inflorescence axillary and terminal, 5--7 cm. long, densely cymose, in centrifugally dichotomous-corymbose panicles, sparsely puberulent; bracts lanceolate, about 10 mm. long and 3 mm. wide, basally long-attenuate, rufous-puberulent on both surfaces; peduncles densely flavescent-puberulent, angled; pedicels erect, the central one 10--14 mm. long, the others 7 mm. long, rufous- or flavescent-puberulent; flowers very numerous; calyx in bud closed, about 4 mm. long and 6 mm. wide, coriaceous, externally sparsely puberulent, with a short campanulate tube, later splitting into 4 subequal, ovate, apically obtuse valves about 8 mm. long; corolla white, erect, 1.4 cm. long, the tube infundibular, 3 mm. wide at the middle, the lobes subequal, ovate, 3--4 mm. long, apically obtuse, or the exterior lobe largest, marginally entire, the intermediate one slightly smaller, marginally entire, the 2 interior ones smallest, marginally suberose, 1/3 as long as the tube; stamens 4, subequal, inserted in the throat or at the middle of the corolla-tube, shortly exserted; filaments 1.8 cm. long, glabrous; anthers (in bud) elliptic, inflexed, later oblong, 4 mm. long, versatile, the thecae parallel; style surpassing the anthers; ovary apically shortly 4-lobed, 4-celled, each cell 1-ovulate; stigma bifid; ovules high-laterally inserted.

This species is based on *Horne 1002*, collected in the village of Waidrada [Waindrandra], near Nadrau [Nandrau] in Nandronga & Navosa province in the interior of Viti Levu, Fiji Islands, in August, 1878, and deposited in the Kew herbarium. Smith (1978) asserts that no such village now exists and its exact location in Horne's day cannot now be determined.

The species is named in honor of Sir Ruthven LeHunt (1852--1925), government commissioner for a portion of the interior of Viti Levu. He gave much assistance to Horne on the latter's collecting expedition in Fiji. Later he became governor of South Australia; still later of Trinidad and Tobago.

Smith (1978) asserts that the type collection of *F. neobudica* var. *puberulenta* "is essentially identical" with the type collection of *Clerodendron lehuntei* and therefore must be reduced to synonymy.

Collectors describe *F. lehuntei* as a high-climbing liana, a "small scandent tree growing on other trees" [Bryan 341] or "twisting around and over the branches of rainforest trees".

[to be continued]